

**SYSTEM AND METHOD TO IDENTIFY  
A MODULATION FORMAT OF A DATA FRAME  
WITHIN A CELLULAR WIRELESS NETWORK**

**ABSTRACT**

The modulation format of a data block (frame) received from a servicing base station by a wireless terminal in a cellular wireless communication system is identified. This involves first receiving several radio frequency (RF) bursts of one data block (frame) from the servicing base station. The RF burst carries a number of modulated symbols. The training sequence is extracted from the RF burst and is made of a number of modulated symbols. The training sequences are first processed assuming a first modulation format to produce a first accumulated channel energy. Then, the training sequences are processed assuming a second modulation format to produce a second accumulated channel energy. The first and second accumulated channel energies are compared to determine which accumulated channel energy is greater. The modulation format of the data block is identified as the modulation format corresponding to the greater accumulated channel energy.